

WHAT IS CLAIMED IS:

1. A liquid container comprising:
 - an accommodation portion to define a liquid
 - 5 accommodation space;
 - a liquid supply portion to supply a liquid
 - accommodated in the accommodation space to an outside;
 - a mechanism to maintain or expand a volume of the
 - accommodation space; and
 - 10 a one-way valve to allow an introduction of a gas
 - from the outside into the accommodation space and
 - prevent the liquid and gas from flowing out of the
 - accommodation space to the outside;
 - wherein the one-way valve includes: a flexible
 - 15 sheet situated between a first chamber on the
 - accommodation space side and a second chamber on the
 - outside and having an area to secure a predetermined
 - level of freedom of deflection; and a valve mechanism
 - to perform an open-close operation accompanied by a
 - 20 deflection of the flexible sheet, the degree of the
 - flexible sheet deflection conforming to a pressure
 - difference between the first chamber and the second
 - chamber;
 - wherein the area of the flexible sheet is formed
 - 25 with an undulated portion whose undulated form is
 - maintained in at least an operation range of the valve
 - mechanism.

2. A liquid container according to claim 1,
wherein the area of the flexible sheet is formed with
an undulated portion, the undulated portion rising or
5 a sinking toward the first chamber side or second
chamber side.

3. A liquid container according to claim 1,
wherein the flexible sheet is formed of a resin member
10 or resin sheet.

4. A liquid container according to claim 1,
wherein the valve mechanism includes a valve closing
member attached to the flexible sheet, a seal member
15 provided at a predetermined position to oppose the
valve closing member, and a biasing member urging the
seal member in a direction opposing the valve closing
member;

wherein the valve closing member has an opening
20 communicating the first chamber and the second chamber
with each other;

wherein the seal member opens or closes the opening
as the valve closing member moves accompanied by a
deflection of the flexible sheet.

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5. A liquid container according to claim 1,
wherein the area of the flexible sheet is situated

along a circumference of the valve closing member.

6. An ink tank accommodating ink as a liquid in the liquid container of claim 1.

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7. An ink jet cartridge having the ink tank of claim 6 and an ink jet print head to eject ink.

8. An ink jet printing apparatus for printing an
10 image by using the ink tank of claim 6 and an ink jet print head to eject ink and by ejecting ink supplied from the ink tank from the ink jet print head.

9. A one-way valve for allowing a fluid to move
15 from a first chamber on one side of a path to a second chamber on the other side and blocking the fluid from moving from the second chamber to the first chamber, the one-way valve comprising:

a flexible sheet situated between the first chamber
20 and the second chamber and having an area to secure a predetermined level of freedom of deflection; and

a valve mechanism to perform an open-close operation accompanied by a deflection of the flexible sheet, the degree of the flexible sheet deflection
25 conforming to a pressure difference between the first chamber and the second chamber;

wherein the area of the flexible sheet is formed

with an undulated portion whose undulated form is maintained in at least an operation range of the valve mechanism.

5 10. A method of manufacturing a liquid container,
wherein the liquid container includes: an
accommodation portion to define a liquid accommodation
space; a liquid supply portion to supply a liquid
accommodated in the accommodation space to an outside;
10 a mechanism to maintain or expand a volume of the
accommodation space; and a one-way valve to allow an
introduction of a gas from the outside into the
accommodation space and prevent the liquid and gas
from flowing out of the accommodation space to the
15 outside;

wherein the one-way valve includes: a flexible
sheet situated between a first chamber on the
accommodation space side and a second chamber on the
outside and having an area to secure a predetermined
20 level of freedom of deflection; and a valve mechanism
to perform an open-close operation accompanied by a
deflection of the flexible sheet, the degree of the
flexible sheet deflection conforming to a pressure
difference between the first chamber and the second
25 chamber;

the method comprising:

a step of, before or after the flexible sheet is

assembled into the one-way valve, forming in the area of the flexible sheet an undulated portion whose undulated form is maintained in at least an operation range of the valve mechanism.

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11. A method of manufacturing a liquid container according to claim 10, further including:

a step of forming the undulated portion in the area of the flexible sheet before the flexible sheet is
10 assembled into the one-way valve; and

a step of, when the flexible sheet formed with the undulated portion is assembled into the one-way valve, setting an assembly attitude of the flexible sheet so that the undulated form of the undulated portion can
15 be maintained in at least a deflection range of the flexible sheet as the valve mechanism performs an open-close operation.

12. A method of manufacturing a liquid container
20 according to claim 10, further including:

a step of assembling into the one-way valve the flexible sheet not formed with the undulated portion in the area of the flexible sheet; and

a step of forming the undulated portion in the area
25 of the flexible sheet after the flexible sheet is assembled into the one-way valve.

13. A method of manufacturing a liquid container according to claim 10, further including:

a step of, after preparing the liquid container provided with the one-way valve, injecting a liquid
5 into the accommodation portion.